

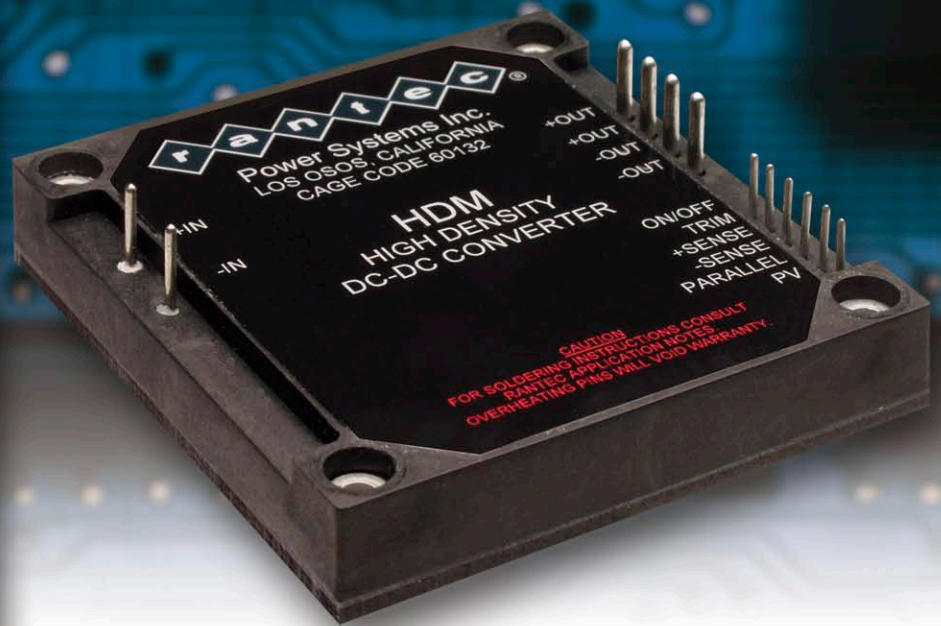
# Power Solutions for Today's Military

Power Systems from **COTS+** Building Blocks

## HDM-100

Single Output Series  
48V Input DC-DC Converter

- ◆ Up to 120W output
- ◆ Fixed frequency operation
- ◆ External synchronization capability (optional)
- ◆ Logic On/Off
- ◆ Conduction cooled
- ◆ Ruggedized meets MIL-STD-810C
- ◆ Wide operating temperature -55°C to +95°C
- ◆ No aluminum electrolytic capacitors
- ◆ Compatible with Rantec's HDM-BT boost converter
- ◆ Competitively priced
- ◆ Tested in accordance with IEEE 1515-2000, as applicable
- ◆ Consult Rantec for your unique requirements



Rantec's HDM-100 is part of a family of DC-DC converters that are the basic building block used to develop performance based "Power System" in today's military environment. Its compact size and high performance make it an ideal element for a distributed power system. The modules can also be configured in multiple combinations to develop custom solutions. Using fixed frequency switching technology, the HDM-100 has predictable performance, a must for military applications. The HDM series converters incorporate power MOSFETs, planar magnetics, and surface mount technology onto a metal clad PC board. The forward converter topology employs fewer components, which translates into enhanced reliability.

### SINGLE OUTPUT SERIES MODELS

2.1V@30A	3.3V@25A	5V@20A	12V@10A	15V@8A	24V@5A
HDM-2S2 -2-01	HDM-2S2 -3-01	HDM-2S2 -5-01	HDM-2S2 -12-01	HDM-2S2 -15-01	HDM-2S2 -24-01

*The System Designer's Choice*

**Rantec Power Team Engineers  
Offer Technical Assistance to:**  
Evaluate Power System Requirements  
Develop Power System Architecture  
Reduce Time to Market



**Rantec Power Systems Inc.**

# HDM-100

## Single Output Series

### 48V Input DC-DC Converter

#### INPUT POWER

	MIN	TYP	MAX	UNITS	COMMENTS
Voltage Nominal	36	48	72	VDC	Steady State Transients 32-100VDC

#### OTHER

	MIN	TYP	MAX	UNITS	COMMENTS
Switching Frequency		300		KHz	Fixed

#### ISOLATION

Input-Output	10MΩ minimum @ 1000VDC	
Input-Case		
Output-Case	10MΩ minimum @ 50VDC	

#### POWER RATING

VDC	AMPS	MAX. WATTS	TYPICAL %
2.1	30	63	68
3.3	25	83	77
5	20	100	82
12	10	120	84
15	8	120	85
24	5	120	87

#### EFFICIENCY

#### MECHANICAL

I/O Connection	Wave solderable or inserted into mated sockets*
Weight	5 oz. max.
Construction	Fully encapsulated

#### ENVIRONMENTAL

Cooling	Conductively cooled +95°C max
Operating Temperature	-55°C to +95°C, baseplate
Storage Temperature	-55°C to +125°C
Humidity	MIL-Std-810C, Meth 507.1, Proc IV (Proc I, II, or III w/optional parylene coating.)
Altitude	up to 70,000 ft
Shock	MIL-S-901C, Grade A, Type A, Class 1 High impact shock MIL-STD-810, Method 516, Proc. 1
Vibration	MIL-STD-810, Method 514, Proc. 1
Salt Fog	MIL-STD-810F, Method 509.4
MTBF	1,575,000 hours @ 55°C baseplate (demonstrated, ground benign)

\*Consult factory for application notes (also available online at [www.rantec.com](http://www.rantec.com))

#### OUTPUT VOLTAGE

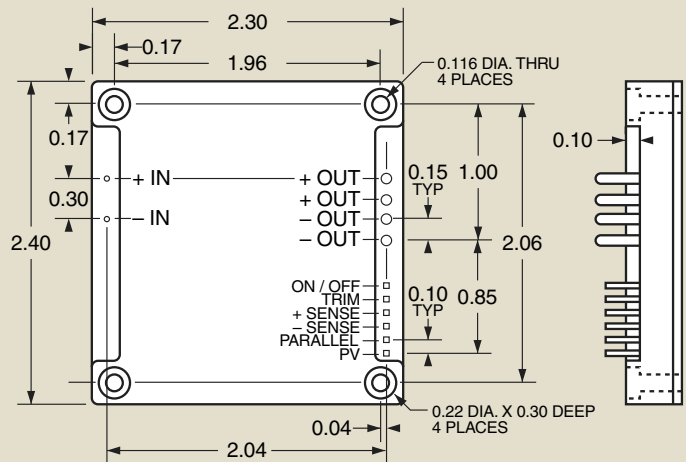
	MIN	TYP	MAX	UNITS	COMMENTS
Set Point		0.50	1.0	± %	Full Load
Trim Adjust	10			± %	See HDMA-104*
Ripple		1	2	% p-p	20MHz BW
Temp Coeff			0.02	%/°C	

#### OUTPUT PROTECTION

Overvoltage		120		%	Non-Shutdown
Current Limit		140		%	Auto Recovery
Auto Temp Shutdown	100	105	110	°C	Auto Recovery

#### FREQUENCY SYNC (OPTIONAL)

	MIN	TYP	MAX	UNITS	COMMENTS
Frequency	330	350	370	KHz	See HDMA-102*



#### OUTLINE & MOUNTING DIAGRAM

Dimensions are in inches, for reference only.

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